

Appln No. 10/680,818

Amdt date March 26, 2007

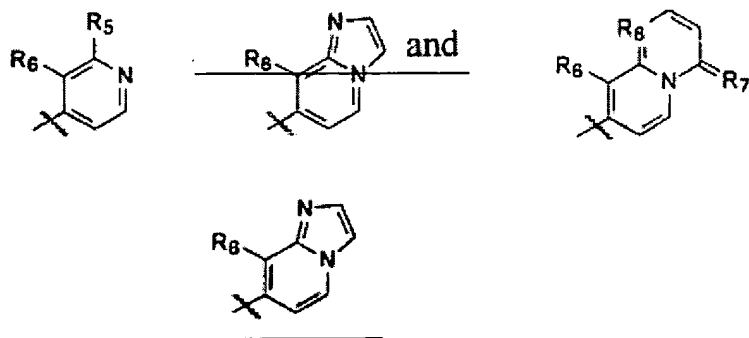
Reply to Office action of September 26, 2006

**Amendments to the Specification:**

On page 3, line 19, please amend the paragraph to read as follows:

"The present invention provides methods for labeling structures, including .beta.-amyloid plaques and neurofibrillary tangles, in vivo and in vitro, and comprises contacting a compound of formula (I):

with mammalian tissue. In formula (I), R<sub>1</sub> is selected from the group consisting of --C(O)-alkyl, -C(O)-alkylenyl-R<sub>4</sub>, --C(O)O-alkyl, --C(O)O-alkylenyl R<sub>4</sub>, --C=C(CN).sub.2-alkyl, --C=C(CN)<sub>2</sub>-alkylenyl-R<sub>4</sub>,



R<sub>4</sub> is a radical selected from the group consisting of alkyl, substituted alkyl, aryl and substituted aryl; R<sub>5</sub> is a radical selected from the group consisting of --NH<sub>2</sub>, --OH, --SH, --NH-alkyl, --NHR<sub>4</sub>, --NH-alkylenyl-R<sub>4</sub>, --O-alkyl, --O-alkylenyl-R<sub>4</sub>, --S-alkyl, and --S-alkylenyl-R<sub>4</sub>; R<sub>6</sub> is a radical selected from the group consisting of --CN, --COOH, --C(O)O-alkyl, --C(O)O-alkylenyl-R<sub>4</sub>, --C(O)-alkyl, --C(O)-alkylenyl-R<sub>4</sub>, --C(O)-halogen, --C(O)NH<sub>2</sub>, --C(O)NH-alkyl, --C(O)NH-alkylenyl-R<sub>4</sub>; R<sub>7</sub> is a radical selected from the group consisting of O, NH, and S; and ~~R<sub>8</sub> is N, O or S. R<sub>8</sub> is N.~~

On page 4, line 18, please amend the paragraph to read as follows:

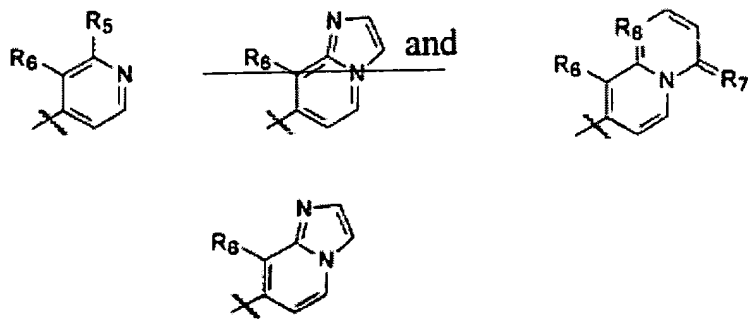
" In still another embodiment, the invention is directed to a composition comprising a compound of formula (I):

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R<sub>1</sub> is selected from the group consisting of --C(O)-alkyl, --C(O)-alkylenyl-R<sub>4</sub>, --C(O)O-alkyl, --C(O)O-alkylenyl-R<sub>4</sub>, --C=C(CN).sub.2-alkyl, --C=C(CN)<sub>2</sub>-alkylenyl-R<sub>4</sub>,



R<sub>4</sub> is a radical selected from the group consisting of alkyl, substituted alkyl, aryl and substituted aryl; R<sub>5</sub> is a radical selected from the group consisting of --NH<sub>2</sub>, --OH, --SH, --NH-alkyl, --NHR<sub>4</sub>, --NH-alkylenyl-R<sub>4</sub>, --O-alkyl, --O-alkylenyl-R<sub>4</sub>, --S-alkyl, and --S-alkylenyl-R<sub>4</sub>; R<sub>6</sub> is a radical selected from the group consisting of --CN, --COOH, --C(O)O-alkyl, --C(O)O-alkylenyl-R<sub>4</sub>, --C(O)-alkyl, --C(O)-alkylenyl-R<sub>4</sub>, --C(O)-halogen, --C(O)NH<sub>2</sub>, --C(O)NH-alkyl, --C(O)NH-alkylenyl-R<sub>4</sub>; R<sub>7</sub> is a radical selected from the group consisting of O, NH, and S; ~~R<sub>8</sub> is N, O or S;~~ R<sub>8</sub> is N; R<sub>2</sub> is selected from the group consisting of alkyl and alkylenyl-R<sub>5</sub> and R<sub>3</sub> is alkylenyl-R<sub>5</sub>, and R<sub>5</sub> is selected from the group consisting of --OH, --OTs, halogen, spiperone, spiperone ketal, and spiperone-3-yl, or R<sub>2</sub> and R<sub>3</sub> together form a heterocyclic ring, optionally substituted with at least one radical selected from the group consisting of alkyl, alkoxy, OH, OTs, halogen, alkylenyl-R<sub>5</sub>, carbonyl, spiperone, spiperone ketal and spiperone-3-yl. One or more of the hydrogen, halogen or carbon atoms can optionally be replaced with a radiolabel.

On page 7, line 16, please replace the second pictured chemical structure with the following corrected chemical structure:

On page 8, line 10, please amend the paragraph to read as follows:

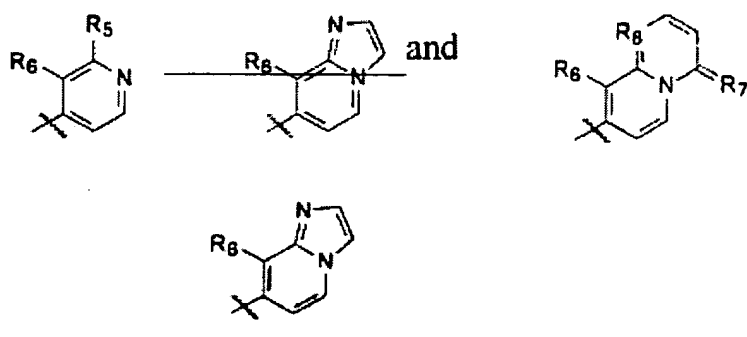
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"The present invention is directed to methods for labeling structures such as  $\beta$ -amyloid plaques and neurofibrillary tangles in vivo and in vitro. The methods all involve contacting a compound of formula (I):

with mammalian tissue. In formula (I),  $R_1$  is selected from the group consisting of  $--C(O)-alkyl$ ,  $--C(O)-alkylenyl-R_4$ ,  $--C(O)O-alkyl$ ,  $--C(O)O-alkylenyl-R_4$ ,  $--C=C(CN)_2-alkyl$ ,  $--C=C(CN)_2-alkylenyl-R_4$ ,



$R_4$  is a radical selected from the group consisting of alkyl, substituted alkyl, aryl and substituted aryl.  $R_5$  is a radical selected from the group consisting of  $--NH_2$ ,  $--OH$ ,  $--SH$ ,  $--NH-alkyl$ ,  $--NHR_4$ ,  $--NH-alkylenyl-R_4$ ,  $--O-alkyl$ ,  $--O-alkylenyl-R_4$ ,  $--S-alkyl$ , and  $--S-alkylenyl-R_4$ .  $R_{sub.6}$  is a radical selected from the group consisting of  $--CN$ ,  $--COOH$ ,  $--C(O)O-alkyl$ ,  $--C(O)O-alkylenyl-R_4$ ,  $--C(O)-alkyl$ ,  $--C(O)-alkylenyl-R_4$ ,  $--C(O)-halogen$ ,  $--C(O)NH_2$ ,  $--C(O)NH-alkyl$ ,  $--C(O)NH-alkylenyl-R_4$ .  $R_7$  is a radical selected from the group consisting of O, NH, and S.  ~~$R_8$  is N, O or S.~~  $R_8$  is N.